GAU 2834

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Date of Signature and Deposit: August 30, 2001 John S. Pienkos

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#4/Response
Hawkins
9/13/01

Applicants:	Douglas W. Dorn
Appl. No.:	09/695,169
Filed:	October 24, 2000
Title:	METHOD AND APPARATUS FOR REGULATING THE EXCITATION OF AN ALTERNATOR OF A GENSET
Art Unit:	2834
Examiner:	Gonzalez, J.

REPLY

Box Non-Fee Amendment
Commissioner for Patents
Washington, DC 20231

Dear Sir:

In response to the first Patent Office action on the above application mailed on June 1, 2001, the Applicant respectfully provides the following Remarks.

REMARKS

The Applicant has reviewed the Examiner's comments in the Office Action and appreciates the Examiner's care in examining the Application.

In the Office Action, the Examiner first objected to the Drawings. The Examiner further rejected claims 1-14 and 16-22

under 35 U.S.C. Section 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Additionally, the Examiner rejected claims 1, 3-11, 13-16 and 18-22 under 35 U.S.C. Section 102(b) as being anticipated by Rozman et al. (U.S. Pat. No. 5,594,322), and also rejected claims 2, 12, and 17 under 35 U.S.C. Section 103(a) over Rozman et al. in view of ordinary skill in the art.

The Applicant respectfully traverses each of the Examiner's objection to the Drawings and rejections of the claims, as set forth below.

OBJECTION TO THE DRAWINGS

The Applicant respectfully traverses the Examiner's objection to the drawings under 37 CFR Section 1.83(a) because the drawings as currently presented do show the features identified by the Examiner as requiring support in the drawings. Exemplary embodiments of the first and second calculation elements are shown in Fig. 5 as elements 512 and 502, respectively. This is confirmed by the language of pending claim 3 and by the Specification at page 16, line 21 through page 17, line 21. An exemplary embodiment of the intermediate signal generation element is shown in Fig. 5 as including elements 514 and 516, as confirmed by the language

of pending claim 5 and by the Specification at page 18, lines 28-34. Likewise, an exemplary embodiment of the control signal generation element is shown in Fig. 5 as including elements 504 and 506, as confirmed also by the language of pending claim 5 and the Specification at page 18, line 33 through page 19, line 3.

The alternator of claim 1 is shown in Figs. 1 and 5 as element 154. Three output signals A-C are provided from the alternator 154 of Fig. 5; these output signals are representative of either a wye-type configuration or a delta-type configuration, as known to one skilled in the art (see also the Specification at page 16, line 32 through page 17, line 9). Additionally, exemplary embodiments of the first and second comparing elements of claim 5 are shown in Fig. 5 as elements 514 and 504, respectfully, as confirmed by the language of pending claim 6 and the Specification at page 18, lines 28-35.

CLAIM REJECTIONS UNDER 35 U.S.C. Section 112

The Applicant respectfully traverses the Examiner's rejection of claims 1-14 and 16-22 under 35 U.S.C. Section 112 for indefiniteness. As discussed above with respect to the Objection to the Drawings, Fig. 5 shows exemplary embodiments of the first and second calculation elements as elements 512 and 502, respectively. Fig. 5 additionally shows an exemplary

embodiment of the intermediate signal as being the output signal "OUT 1" of element 516, and shows an exemplary embodiment of the control signal as being the output signal "OUT 1" of element 506.

As for the Examiner's comment concerning claim 3, an exemplary embodiment of the first calculation element is shown as element 512, not 502. Element 512 is shown to receive all three phases output by the alternator 154. It is based upon these three phases that the element 512 calculates first, second and third RMS voltages, as set forth in the Specification at page 17, lines 10-21.

With respect to the Examiner's comments concerning claims 4 and 7, the MPEP at Section 2173.05(b) states that "Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification." The Applicant respectfully submits that one of ordinary skill in the art would understand, in view of Fig. 5, how to implement alternators in the other claimed configurations of claim 4, as well as how to implement any of the proportional, proportional-integral, or proportional-integral-differential controllers of claim 7, which are well-known in the art.

CLAIM REJECTIONS UNDER 35 U.S.C. Section 102

The Applicant respectfully traverses the Examiner's rejection of claims 1, 3-11, 13-16 and 18-22 under 35 U.S.C. Section 102(b) as being anticipated by Rozman et al. for two reasons. First, the sections of Rozman et al. identified by the Examiner do not appear to relate at all to a system and method for controlling an excitation level of an alternator, and consequently the limitations of each of the independent claims 1, 15 and 16 relating to an alternator appear to be completely missing from Rozman et al. Further, the Applicant respectfully submits that the specific limitations in the independent claims 1, 15 and 16 that are addressed by the Examiner in Paragraph 5 of the Office Action appear to be missing from Rozman et al.

The Applicant is unable to find any reference to an alternator within Rozman et al. In particular, the sections of Rozman et al. identified by the Examiner (e.g., those relating to Fig. 14) do not appear to relate to a system and method for controlling an excitation level of an alternator. Rather, these sections of the patent appear to relate to a "back-EMF controller 160 [that] includes a rotor position detector 340 and a starting system control 341 for operating the generator 10 in a starting mode to convert electrical power into motive power." (Col. 14, lines 2-5). That is, these sections relate to operating a synchronous generator as

a motor, and do not relate to providing power out of an alternator. This understanding is confirmed at col. 6, lines 9-28 of Rozman et al. as well as by Fig. 14 itself, which shows three lines 48 a-c that provide AC power to the windings of the synchronous generator/motor, rather than providing AC power out of an alternator.

Because Fig. 14 of Rozman et al. relates to powering an electric motor rather than excitation of an alternator, all of the limitations of the independent claims 1, 15 and 16 relating to control of an alternator appear to be missing from Rozman et al. In particular, the limitations of receiving indications of first, second and third (or a plurality of) output voltages from an alternator as recited in claims 1, 15 and 16 appear to be missing from Rozman et al. Further, the limitations of generating a control signal for controlling the excitation of an alternator appear to be missing from Rozman et al.

Additionally, specific claim elements identified by the Examiner in Paragraph 5 of the Office Action appear to be missing from Rozman et al. With respect to the limitations of claim 1, in contrast to the Examiner's comments, element 342 in Fig. 14 of Rozman et al. is not a first calculation element as in claim 1 of the present Application, since element 342 only receives two voltage signals (V_b and V_a), not three voltage signals as recited in claim 1. Also, element 346 of

Rozman et al. is not a second calculation element as in claim 1, since element 346 apparently does not receive an output voltage signal as an input as required by claim 1.

Additionally, element 344 of Fig. 14 of Rozman et al. is not an intermediate signal generation element (and does not therefore generate an intermediate signal) as in claim 1, since element 344 apparently does not receive both a target input and a first feedback signal as input signals as required by claim 1. Further, element 356 of Fig. 14 of Rozman et al. is not a control signal generation element as in claim 1, since element 356 apparently does not produce a control signal that is employed to control an excitation level of an alternator.

Insofar as the first calculation element of claim 1 is missing from Rozman et al., the outer loop means of claim 15 is also missing from Rozman et al. Similarly, insofar as the second calculation element of claim 1 is missing from Rozman et al., the inner loop means of claim 15 is also missing from Rozman et al. Additionally, insofar as the control signal generation element of claim 1 is missing from Rozman et al., the steps of determining a control signal and controlling the excitation level of the alternator in response to the control signal of claim 16 are also missing from Rozman et al.

Therefore, because Rozman et al. apparently does not relate to the control of an alternator, and is missing

numerous limitations of claims 1, 15 and 16 both relating to the control of an alternator and otherwise, the Applicant respectfully submits that these claims are allowable over Rozman et al. Further, insofar as Rozman et al. does not disclose all of the limitations of independent claims 1 and 16, the Applicant respectfully submit that the dependent claims 3-11, 13-14 and 18-22 rejected by the Examiner are also allowable over Rozman et al.

CLAIM REJECTIONS UNDER 35 U.S.C. Section 103

The Applicant further respectfully submits that, insofar as Rozman et al. fails to disclose numerous limitations of the independent claims 1 and 16 relating to alternator control and otherwise, claims 2, 12 and 17 are also nonobvious and allowable over Rozman et al. and in view of ordinary skill in the art.

* * *

Conclusion

In view of the Applicant's Remarks being submitted herewith, the Applicant respectfully requests reconsideration and allowance of the present application.

The Applicant wishes to invite the Examiner to telephone the Applicant's attorney at the number listed below if

discussion with the Applicant's attorney would be of assistance to the Examiner or further the prosecution of the present application.

Respectfully submitted,

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Dated: August 30, 2001 By: John S. Pienkos

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